

Amendment and Response

Applicant: Mark W. Minne et al.

Serial No.: 09/718,322

Filed: November 22, 2000

Docket No.: 10007268-1

Title: ONE-TIME-USE DIGITAL CAMERA

REMARKS

The following remarks are made in response to the Office Action mailed June 17, 2004. Claims 1-32 were rejected. With this Response, claims 7, 23, 24-26 and 28-32 have been amended, and claims 33-83 have been added. Claim 22 has been cancelled. Claims 1-21 and 23-83 are pending in the application and are presented for consideration and allowance.

Specification

The disclosure was objected to based on an informality. As suggested by the Examiner, on page 9, line 21, Applicants have changed the phrase "external interface 100" to recite --external interface 90--. Accordingly, Applicants believe the above objection should be withdrawn.

Drawings

The drawings were objected to under 37 C.F.R. § 1.83(a). The Examiner noted "Figure 3 illustrates removable portion 50 being removed from a portion 52 to access a non-volatile memory 54 of the digital camera 20. However, Figure 3 does not show "a front portion 52" as recited in the specification and as required by claim 9." Although the front portion 52 is illustrated in Fig. 3, the element number was left out. Applicant has corrected Figure 3 by adding element number 52, indicating the illustrated front portion, as described in the specification. An amended replacement drawing sheet having figure 3 is included with this response. Approval of the amended replacement drawing sheet is respectfully requested.

Claim Rejections under 35 U.S.C. § 102

Claims 22, and 24-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Wong, U.S. Publication No. 2003/0058355 A1 (Wong). With this Response, independent claim 22 has been cancelled, and dependent claim 23 has been rewritten into independent form. Dependent claims 24 and 25 have been amended to depend upon independent claim 23. Accordingly, Applicants believe the above rejection under 35 U.S.C. § 102(e) should be withdrawn.

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Claim Rejections under 35 U.S.C. § 103

Claims 1-21, 23, 26-27 and 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong et al. in view of Gudesen, U.S. Patent No. 6,055,180 (Gudesen).

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wong in view of Baum U.S. Publication No. 2002/0065741 A1 (Wong). With this Response, claim 28 has been amended to depend upon independent claim 23. Accordingly, only the above rejection of claims 1-21, 23, 26-27 and 29-32 are under 35 U.S.C. § 103(a) over Wong in view of Gudesen is addressed in detail herein.

Applicants submit that Wong, either alone or in view of Gudesen, fails to teach or suggest the invention of independent claims 1, 7, 16 and 23 and the claims depending therefrom.

Independent claim 1 recites a one-time-use camera. The camera includes an electronic digital camera system for generating digital image data representative of a captured image and a non-volatile memory. The non-volatile memory is in communication with the electronic digital camera system for storing the digital image data, the non-volatile memory comprising a matrix memory component, the matrix memory component including a first layer of parallel conductors, a second layer of parallel conductors oriented mutually orthogonal to the first set of parallel conductors, and a functional medium disposed between the first layer and the second layer, wherein an addressable cell in the functional medium is defined at an intersection of each first layer parallel conductor and second layer parallel conductor. Supplying an electrical energy directly to the functional medium of the cell detects or changes the logical state of the cell, for reading and writing the digital image data at the matrix memory component.

Wong discloses an analog buffer memory for high-speed digital image capture. A digital imaging system uses the analog buffer memory to store analog and/or multiple bits of data during a burst mode. The stored analog data is then retrieved and converted to digital data for further image processing and compression. After processing, the digital image data is persistently stored, such as on a PC/hard disk drive 275 or removable flash memory card 285.

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Gudesen discloses an electrically addressable passive device. The electrically addressable passive device is a matrix addressable logic memory device that employs a functional medium.

Applicants submit that it would not be obvious to one skilled in the art to apply the teachings of Wong in view of Gudesen and arrive at the present invention of independent claim 1.

The Examiner concedes that Wong fails to disclose a non-volatile memory as claimed by Applicants. The Examiner states:

Wong '355 does not explicitly show the non-volatile memory comprising a first layer of parallel conductors, a second layer of parallel conductors oriented mutually orthogonal to the first set of parallel conductors, and a functional medium disposed between the first layer and the second layer, wherein an addressable cell in the functional medium is defined at an intersection of each first layer parallel conductor and second layer parallel conductor as recited in the present claimed invention.

The Examiner notes that Wong "shows the use of the non-volatile memory comprising an addressable memory cell (i.e., Figs. 3 and 5). And further suggested that other memory architectures are also suitable for the digital camera system (i.e., see paragraph 0039)." The non-volatile memory of Wong, indicated by the Examiner in Figures 3 and 5, is an analog memory utilized as a buffer to temporarily store analog image data. Again, the non-volatile memory, as claimed by Applicants in independent claim 1, is in communication with the electronic digital camera system for storing digital image data.

Gudesen merely discloses a non-volatile memory including a matrix memory component. Neither Wong nor Gudesen teach or suggest the use of a non-volatile memory, as claimed by Applicant, for storing digital image data in a one-time-use camera. Wong teaches the storage of digital image data in conventional persistent storage devices, such as a hard disk drive or removable flash memory stick, both of which are not part of the camera. Gudesen merely recites a matrix memory but makes no mention of use of the matrix memory as part of a digital camera. Since neither Wong nor Gudesen teach or suggest the combination, it would not be obvious to one skilled in the art to combine the teachings of

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Wong with the teachings of Gudesen, and arrive at the present invention of independent claim 1.

Dependent claim 2-6, 11, 12, 14 and 15 depend directly or indirectly upon independent claim 1. Accordingly, dependent claims 2-6, 11, 12, 14 and 15 are also allowable over the art of record.

Applicants have rewritten dependent claim 7 in independent form. Wong in view of Gudesen also fails to teach or suggest the claim recitations in independent claim 7. Claim 7 recites a one-time-use camera. The camera includes an electronic digital camera system for generating digital image data representative of a captured image and a non-volatile memory. A non-volatile memory is in communication with the electronic digital camera system for storing the digital image data, the non-volatile memory comprising a matrix memory component. The matrix memory component includes a first layer of parallel conductors, a second layer of parallel conductors oriented mutually orthogonal to the first layer of parallel conductors, and a functional medium disposed between the first layer and the second layer, wherein an addressable cell in the functional medium is defined at an intersection of each first layer parallel conductor and second layer parallel conductor. Supplying an electrical energy directly to the functional medium of the cell detects or changes the logical state of the cell, for reading and writing the digital image data at the matrix memory component. The camera further includes a camera housing, wherein the non-volatile memory component is attached to the housing.

For reasons similar to those as stated above with regard to independent claim 1, Wong, either alone or in view of Gudesen, fails to teach or suggest the one-time-use camera of independent claim 7. Further, neither Wong nor Gudesen discloses a one-time-use camera including a camera housing, wherein the non-volatile memory component is attached to the housing. Although the Examiner states "a combination of Wong '355 and Gudesen '180 discloses a camera housing," Applicants claim the non-volatile memory component attached to the housing. The Examiner further references the camera body 201 as shown in Figures 8-10. Figures 8-10 are system block diagrams and merely show a dashed line to indicate camera body 201. For this reason, in addition to the reasons stated above with reference to independent claim 1, Applicant believes the above rejection of claim 7 under 35 U.S.C. § 103 should be withdrawn.

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Dependent claim 8 further recites the housing including a **front portion and a back portion, wherein the non-volatile memory component is attached to the back portion defining a camera back memory assembly**. Dependent claim 8 recites **the camera back memory assembly being removable from the front portion**. Dependent claim 9 recites **the camera back memory assembly being replaceable with a second camera back memory assembly**. Again, the Examiner's statements are misleading. Nowhere in Wong or Gudesen is camera back memory assembly disclosed. Accordingly, Applicant believes the above rejection of dependent claims 7-10 should also be withdrawn.

Independent claim 16 recites a one-time-use camera. A one-time-use camera includes an electronic digital camera system for generating digital image data representative of a captured image, the electronic digital camera system including a mode switch for allowing a user to select a mode of operation of the camera. A non-volatile memory is in communication with the electronic digital camera system for storing the digital image data. The non-volatile memory comprises a matrix memory component. The matrix memory component includes a first layer of parallel conductors, a second layer of parallel conductors oriented mutually orthogonal to the first set of parallel conductors, and a functional medium disposed between the first layer and the second layer, wherein an addressable cell and the functional medium is defined at an intersection of each first layer parallel conductor and second layer parallel conductor. Supplying an electrical energy directly to the functional medium of the cell detects or changes the logical state of the cell, for reading and writing the digital image data at the matrix memory component.

For reasons similar to those stated above with reference to independent claim 1, Applicant submits that Wong, either alone or in view of Gudesen, fails to teach or suggest the one-time-use camera of independent claim 16. Further, neither Wong, nor Gudesen either teach or suggest a one-time-use camera having a mode switch for allowing a user to select a mode of operation of the camera. Accordingly, Applicant requests that the above rejection of independent claim 16 under 35 U.S.C. § 103 be withdrawn.

Dependent claims 17-21 depend either directly or indirectly upon independent claim 16. Accordingly, Applicant believes dependent claims 17-21 to also be allowable over the art of record.

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Claim 22 recites a method of using a one-time-use camera. The method includes defining a digital camera including a camera housing, an electronic digital camera system for generating digital image data representative of a captured image, and a non-volatile memory including a write once memory matrix component in communication with electronic digital camera system for storing the digital image data. An image is captured using the digital camera and stored as digital image data in the non-volatile memory. The non-volatile memory is removed. The digital image data is transferred from the non-volatile memory to a portable medium.

For reasons similar to those stated above with reference to independent claim 1, Applicant believes that Wong, either along or in view of Gudesen fails to teach or suggest the method of using a one-time-use camera of independent claim 22. Accordingly, Applicant also requests that the above rejection of independent claim 22 under 35 U.S.C. § 103 be withdrawn.

Dependent claims 24-32 depend either directly or indirectly upon independent claim 23. Accordingly, Applicant believes dependent claims 24-32 to also be allowable over the art of record.

Added Claims

With this Response, Applicant has added claims 33-83 directed to a digital camera and method. Applicant believes claims 33-83 to also be allowable over the art of record.

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CONCLUSION

In view of the above, Applicant respectfully submits that pending claims 1-35 are in form for allowance and are not taught or suggested by the cited references. Therefore, reconsideration and withdrawal of the rejections and allowance of claims 1-35 is respectfully requested.

The Examiner is invited to contact the Applicant's representative at the below-listed telephone numbers to facilitate prosecution of this application.

Any inquiry regarding this Amendment and Response should be directed to either Philip S. Lyren at Telephone No. (281) 514-8236, Facsimile No. (281) 514-8332 or Steven E. Dicke at Telephone No. (612) 573-2002, Facsimile No. (612) 573-2005. In addition, all correspondence should continue to be directed to the following address:

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Respectfully submitted,

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CERTIFICATE UNDER 37 C.F.R. 1.8: The undersigned hereby certifies that this paper or papers, as described herein, are being facsimile transmitted to the United States Patent and Trademark Office, Fax No. (703) 872-9306 on this 17 day of September, 2004.

By Steven E. Dicke
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